

REMARKS

This application has been reviewed in light of the Office Action mailed on August 5, 2003. Claims 1-40 and 42-46 are pending in the application with Claims 1, 15 and 29 being in independent form. By the present amendment, the specification and Claims 1, 15, 20, 21, 29, 32, 34, 37, 40 and 42-45 have been amended. Claims 47-56 have been added. No new matter or issues are believed to be introduced by the amendments.

I. Rejection of Claims 1, 3, 6-22, 25-31, 34-40 and 42-46 Under 35 U.S.C. §103(a)

Claims 1, 3, 6-22, 25-31, 34-40 and 42-46 were rejected under 35 U.S.C. §103(a) over U.S Patent No. 5,144,120 issued to Krichever et al. ("Krichever et al.") in view of U.S Patent No. 5,410,140 issued to Bard et al. ("Bard et al.") and U.S. Patent No. 4,983,818 issued to Knowles ("Knowles").

The Office Action states that regarding Claims 1, 15 and 29, Krichever et al. as modified by Bard et al. fails to teach a flexible connector that mechanically couples the scanner and the circuit board such that a range of oscillation between the scanner and circuit board is possible. The Office Action further states that Knowles teaches a data acquisition system with a laser scanner module. The Office Action references the embodiment shown by FIGs. 4-6 where a scanner 20 includes mounting means to enable it to be adjusted to various spatial orientations with respect to a data terminal 200.

To accomplish the directional adjustability, the system disclosed by Knowles makes use of a gimble mount 302 to mechanically support the scanner 20 on the data terminal 200. The gimble mount 302 comprises a ball 310 mounted on the end of an arm 312. The arm 312 is fixedly secured to the data terminal 200. The ball 310 is adapted to

be received within a split socket 314 fixedly secured to a top wall of the data terminal 200. With the ball 310 in place in the split socket 314, the arm 312 is located within a slot 316 so that the scanner 20 can be rotated about an axis 318 to effect the up-down orientation of the scanner 20. The Office Action concludes that Knowles "teaches a flexible connector to couple the scanner (20) to the circuit board (data terminal 200)," and in view of the teaching of Knowles, "it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a flexible connector so that the scanner can be used in different orientations in order to reach different items and be more user-friendly to the customer."

In accordance with the Examiner's assessment of the system disclosed by Knowles, Applicant has amended independent Claims 1, 15 and 29 to include features of Applicant's invention which are not disclosed or suggested by Knowles.

Claim 1 in part recites "... means for providing an oscillating magnetic field ... at least one flexible connector mechanically coupling the scanner and the circuit board such that a range of oscillation between the scanner and the circuit board is possible due to the oscillating magnetic field and at least one flexing action of said at least one flexible connector." (Emphasis added)

The gimble mount 302 in the system disclosed by Knowles is designed to orient the scanner 20 using a manual force or by manual interaction and not by an oscillating magnetic field. Accordingly, Knowles does not disclose or suggest providing a range of oscillation between the scanner 20 and the data terminal 200 (which the Examiner analogizes to Applicant's circuit board) such that a range of oscillation between the

scanner 20 and the data terminal 200 is possible due to the oscillating magnetic field and at least one flexing action of the gimble mount 302 (which the Examiner analogizes to Applicant's at least one flexible connector), as recited by Applicant's Claim 1.

Claim 15 in part recites "...the scanner located at a non-contact distance from the scanning component, the scanner comprising ... at least one flexible connector configured to mechanically couple the scanner to a surface such that a range of motion between the scanner and the surface is possible through at least one flexing action of said at least one flexible connector for imparting motion to the light beam; and means mounted to the scanner for interacting with the scanning component via the non-contact distance" (Emphasis added)

All the components of the systems disclosed by Knowles, as best seen from the figures, contact each other. Knowles does not disclose or suggest the scanner 20 being located at a non-contact distance from one or more components which can be characterized as scanning components, let alone, means mounted to the scanner for interacting with the scanning component(s) via the non-contact distance. Accordingly, Knowles does not disclose or suggest the scanner 20 located at a non-contact distance from a scanning component and means mounted to the scanner 20 for interacting with the scanning component via the non-contact distance, as recited by Applicant's Claim 15.

Claim 29 recites in part "... means associated with the scanner for non-contact interaction with a scanning component to impart motion to the light beam while maintaining the light source, lens means and housing means fixed relative to each other;

wherein said motion is imparted to the light beam by a non-manual force on at least one flexible connector.” (Emphasis added)

All the components of the systems disclosed by Knowles, as best seen from the figures, contact each other. The gimble mount 302 is not designed to impart motion to a light beam exiting the scanner 20. However, if the gimble mount 302 is to be used for imparting motion to the light beam, a manual force would be required. Accordingly, Knowles does not disclose or suggest means associated with the scanner 20 for non-contact interaction with a scanning component to impart motion to a light beam, where the motion is imparted to the light beam by a non-manual force on at least one flexible connector, as recited by Applicant's Claim 29.

Accordingly, Krichever et al., Bard et al. and Knowles, taken alone or in any proper combination, do not disclose or suggest at least the newly added features to Applicant's independent Claims 1, 15 and 29. Therefore, it is believed that independent Claims 1, 15 and 29 are patentably distinct over the prior art references, taken alone or in any proper combination, and accordingly, withdrawal of the rejection of independent Claims 1, 15 and 29 under 35 U.S.C §103(a) over Krichever et al. in view of Bard et al. and Knowles and allowance thereof are respectfully requested.

Claims 3, 6-14, 16-22, 25-28, 30-31, 34-40 and 42-46 depend from Claims 1, 15 and 29 and thus are limited by the language found therein. Accordingly, for at least the reasons given above, withdrawal of the rejection with respect to Claims 3, 6-14, 16-22, 25-28, 30-31, 34-40 and 42-46 under 35 U.S.C §103(a) over Krichever et al. in view of Bard et al. and Knowles and allowance thereof are respectfully requested.

II. Rejection of Claim 2 Under 35 U.S.C. §103(a)

Claim 2 was rejected under 35 U.S.C. §103(a) over Krichever et al. in view of Bard et al. and Knowles and further in view of U.S. Patent No. 6,141,436 issued to Srey et al. ("Srey et al.").

Claim 2 depends from Claim 1 and as such is limited by the language therein. Accordingly, for at least the reasons given above, withdrawal of the rejection with respect to Claim 2 under 35 U.S.C. §103(a) over Krichever et al. in view of Bard et al. and Knowles and further in view of Srey et al. and allowance thereof are respectfully requested.

III. Rejection of Claims 4, 23 and 32 Under 35 U.S.C. §103(a)

Claims 4, 23 and 32 were rejected under 35 U.S.C. §103(a) over Krichever et al. in view of Bard et al. and Knowles and further in view of European Patent No. 0731417 issued to Stern et al. ("Stern et al.").

Claims 4, 23 and 32 depend from Claims 1, 15 and 29 and thus are limited by the language therein. Accordingly, for at least the reasons given above, withdrawal of the rejection with respect to Claims 4, 23 and 32 under 35 U.S.C. §103(a) over Krichever et al. in view of Bard et al. and Knowles and further in view of Srey et al. and allowance thereof are respectfully requested.

IV. Rejection of Claims 5, 24 and 33 Under 35 U.S.C. §103(a)

Claims 5, 24 and 33 were rejected under 35 U.S.C. §103(a) over Krichever et al. in view of Bard et al. and Knowles and further in view of U.S. Patent No. 6,195,053 issued to Kodukula et al. ("Kodukula et al.").

Claims 5, 24 and 33 depend from Claims 1, 15 and 29 and thus are limited by the language therein. Accordingly, for at least the reasons given above, withdrawal of the rejection with respect to Claims 5, 24 and 33 under 35 U.S.C §103(a) over Krichever et al. in view of Bard et al. and Knowles and further in view of Kodukula et al. and allowance thereof are respectfully requested.

V. New Claims 47-56

New Claims 47-56 are patentably distinct over the prior art of record and allowance of new Claims 47-56 is respectfully requested.

In particular, Claims 47 and 48 depend from Claims 1 and 15 and thus are limited by the language therein and therefore patentably distinct over the prior art of record for at least the same reasons given above for Claims 1 and 15.

With respect to new independent Claim 49, this claim recites:

A light beam scanning assembly comprising:
a scanner comprising means for generating a light beam and means for receiving reflected light from a target; and
a scanning component located at a non-contact distance from said scanner and comprising means for generating a non-manual force, wherein said non-manual force causes oscillatory motion of said scanner during a scanning procedure for imparting motion to said light beam.

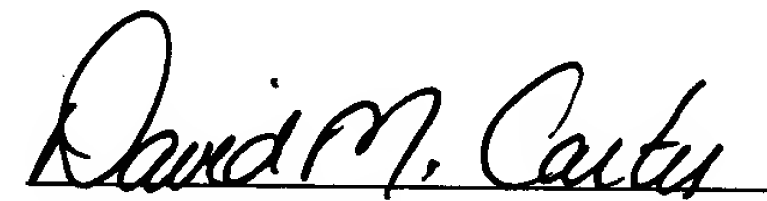
The prior art of record does not disclose or suggest at least the scanning component as recited in Applicant's new independent Claim 49. Accordingly, allowance of dependent Claims 47 and 48 and new independent Claim 49 and its respective dependent claims, namely, Claims 50-56, is respectfully requested.

VI. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-40 and 42-56, are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicant's undersigned attorney at the number indicated below.

Respectfully submitted,



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